

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): An image processing apparatus for extracting an object in an image, comprising;

image obtaining means for obtaining image data of a specified image;

motion analyzing means for analyzing motion of an object included in the image based on the obtained image data, including frame detecting means for detecting a first frame containing a first frame covered background area and for detecting a last frame containing a last frame uncovered background area;

means for prompting a user to input a first frame contour of a first subset of the object to be extracted within the first frame covered background area and to input a last frame contour of a second subset of the object to be extracted within the last frame uncovered background area, respectively; and

object extracting means for extracting the object from a plurality of frames from the first frame to the last frame based on the respective first and last frame contours.

~~motion analyzing means for analyzing the motion of an object included in the image on the basis of the image data obtained by the image obtaining means;~~

~~image presenting means for presenting an image in a frame in which the object to be extracted from the image is specified;~~

~~contour input accepting means for accepting the input of the contour of the object to be extracted from the image in the frame, which is presented by the image presenting means, on the basis of the analysis result obtained by the motion analyzing means; and~~

~~object extracting means for extracting the object in images in a plurality of frames on the basis of the contour of the object, the input of which is accepted by the contour input accepting means.~~

Claim 2 (Currently Amended): An image processing apparatus according to claim 1, wherein the motion analyzing means includes:

motion computing means for computing the motion of the object in the image relative to ~~the~~ a background; and

area determining means for determining the first frame covered background area and the last frame uncovered background area based on an extraction area in which the contour of the object in the image is to be extracted on the basis of the motion computed by the motion computing means;

~~wherein the contour input accepting means accepts the contour input in the extraction area determined by the area determining means.~~

Claim 3 (Currently Amended): An image processing apparatus according to claim 2, wherein the image presenting means displays the first frame covered background area and the last frame uncovered background area~~extraction area determined by the area determining means.~~

Claim 4 (Currently Amended): An image processing apparatus according to claim 2, wherein the motion computing means includes distance computing means for setting a plurality of feature points in the image and computing ~~the distance~~ distances between the adjacent feature points.

Claim 5 (Currently Amended): An image processing apparatus according to claim 4, wherein the area determining means includes:

comparison means for comparing ~~the~~a distance between ~~the~~ adjacent feature points in a temporally prior frame with ~~the~~a distance between ~~the~~ adjacent feature points in a temporally subsequent frame, the distances being computed by the motion computing means; and

setting means for setting, ~~on the basis of the~~based on a comparison result obtained by the comparison means, in the background of the image, the first frame covered background area as an a first area that is gradually covered by the object and the last frame uncovered background area as an a second area that gradually changes from being covered to being non-covered by the object.

Claim 6 (Cancelled):

Claim 7 (Cancelled):

Claim 8 (Original): An image processing apparatus according to claim 1, further comprising object displaying means for displaying the object extracted by the object extracting means.

Claim 9 (Currently Amended): An image processing method for extracting an object in an image, comprising steps of;

obtaining image data of a specified image;

analyzing motion of an object included in the image based on the obtained image data, including detecting a first frame containing a first frame covered background area and detecting a last frame containing a last frame uncovered background area;

prompting a user to input a first frame contour of a first subset of the object to be extracted within the first frame covered background area and to input a last frame contour of a second subset of the object to be extracted within the last frame uncovered background area, respectively; and

extracting the object from a plurality of frames from the first frame to the last frame based on the respective first and last frame contours.

~~analyzing the motion of an object included in the image on the basis of the image data obtained in the image obtaining step;~~

~~presenting an image in a frame in which the object to be extracted from the image is specified;~~

~~accepting the input of the contour of the object to be extracted from the image in the frame, which is presented in the image presenting step, on the basis of the result obtained in the motion analyzing step; and~~

~~extracting the object in images in a plurality of frames on the basis of the contour of the object, the input of which is accepted in the contour input accepting step.~~

Claim 10 (Cancelled):

Claim 11 (Currently Amended): ~~A recording medium having a computer-executable program recorded thereon, the program comprising steps of~~

A computer readable storage medium having a computer-executable program recorded thereon configured to execute a method comprising:

obtaining image data of a specified image;

analyzing motion of an object included in the image based on the obtained image data, including detecting a first frame containing a first frame covered background area and detecting a last frame containing a last frame uncovered background area;

prompting a user to input a first frame contour of a first subset of the object to be extracted within the first frame covered background area and to input a last frame contour of a second subset of the object to be extracted within the last frame uncovered background area, respectively; and

extracting the object from a plurality of frames from the first frame to the last frame based on the respective first and last frame contours.

~~controlling the obtaining of image data of a specified image;~~

~~controlling analysis of the motion of an object included in the image on the basis of the image data obtained in the image obtaining control step;~~

~~controlling the presenting of an image in a frame in which the object to be extracted from the image is specified;~~

~~controlling the accepting of the input of the contour of the object to be extracted from the image in the frame, which is presented in the image presenting control step, on the basis of the result obtained in the motion analysis control step; and~~

~~controlling extraction of the object in images in a plurality of frames on the basis of the contour of the object, the input of which is accepted in the contour input accepting control step.~~

Claim 12 (New): The method according to claim 9, wherein the analyzing step includes:

computing the motion of the object in the image relative to a background; and

determining the first frame covered background area and the last frame uncovered background area based on the computed motion.

Claim 13 (New): The method according to claim 12, wherein the image presenting step includes displaying the first frame covered background area and the last frame uncovered background area.

Claim 14 (New): The method according to claim 12, wherein the motion computing step includes setting a plurality of feature points in the image and computing distances between adjacent feature points.

Claim 15 (New): The method according to claim 14, wherein the area determining step includes:

comparing a distance between adjacent feature points in a temporally prior frame with a distance between adjacent feature points in a temporally subsequent frame; and

setting in the background of the image the first frame covered background area as an area that is gradually covered by the object and the last frame uncovered background area as an area that gradually changes from being covered to being non-covered by the object.

IN THE DRAWINGS

The attached sheets of drawings include changes to Figs. 4, 5D, 19, 20, 24, 26, 28 and 29. These sheets, which include Figs. 4, 5D, 19, 20, 24, 26, 28 and 29, replace the original sheets including Figs. 4, 5D, 19, 20, 24, 26, 28 and 29.

Attachment: Replacement Sheets